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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,426	03/25/2005	Ferdinand Hermann Bahlmann	P/2107-264	5804

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EXAMINER	
HEARD, THOMAS SWEENEY	
ART UNIT	**PAPER NUMBER**
1654	

MAIL DATE	DELIVERY MODE
01/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/522,426	BAHLMANN ET AL.	
	Examiner	Art Unit	
	Thomas S. Heard	1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *44-107* is/are pending in the application.

4a) Of the above claim(s) *44,45,47-51,54-58,60-64,66-69,71-89 and 91-107* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *46,52,53,59,65,70 and 90* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1 IDS*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The Applicants Amendments to the claims received on 11/26/2007 is acknowledged. The text of those sections of Title 35 U.S. Code not included in the action can be found in the prior office action. Rejections or objections not addressed in this office action with respect to the previous office action mailed 9/17/2007 are hereby withdrawn.

Claim(s) 44-107 are pending. Applicants have not amended any claim(s0. Claims 44, 45, 47-51, 54-58, 60-64, 66-69, 71-89, and 91-107 are withdrawn. Claims 46, 52, 53, 59, 65, 70, and 90 are hereby examined on the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 46, 52, 53, 59, 65, 70, and 90 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Fatouros MS et al "Influence of growth factors erythropoietin and granulocyte macrophage colony stimulating factor on mechanical strength and healing of colonic anastomoses in rats," Eur J Surg. 1999 Oct;165(10):986-92(from Applicant's IDS); Krussel JS, et al, "Vascular endothelial growth factor (VEGF) mRNA

splice variants are differentially expressed in human blastocysts," Mol Hum Reprod. 2001 Jan;7(1):57-63, Amgen Inc, EP 0613683 A1; and Zaharia Czeizler, US 6,274,158.

The instantly claimed invention is drawn to a method for wound healing through the administration of erythropoietin (EPO) and an ingredient that stimulates endothelial progenitor cells. Fatouros MS et al teaches the administration of EPO which was shown to be beneficial for healing of colonic anastomoses (the joining and suturing of two sections of intestine in which the cut intestine is viewed as a wound), readable on Claim 1 and 90. Recombinant EPO was administered via subcutaneous injection, readable upon Claims 52 and 53. Fatouros MS does not teach a weekly dosis of 1 to 90 IU of EPO/kg, pulmonary administration of EPO, oral administration of EPO, or an additional ingredient that stimulates endothelial progenitor cells.

Zaharia Czeizler, US 6,274,158, teaches the oral, subcutaneous, and intravenous administration of EPO for the treatment of bleeding due to surgical treatments, for example, see abstract and claim 32 for example. Amgen Inc, EP 0613683 A1, teaches EPO formulation for inhalers (Pulmonary administration), see abstract. Zaharia Czeizler and Amgen's references are readable upon Claims 59, 65, and 90

Krussel JS, et al teaches the compound VEGF (vascular endothelial growth factor) stimulates endothelial progenitor cells and induced angiogenesis, see Introduction and column 2, and is readable on Claim 70. Applicants have define wound healing as: "*In connection with the present invention, 'wound healing' means the physiological processes for regenerating damaged tissue and for closing a wound,*

especially formation of new connective tissue and capillaries." Therefore, VEGF is viewed as a compound that not only induces angiogenesis (capillary formation) but is also a compound that heals wound by Applicant's definition

It would have been obvious at the time of instantly claimed invention to use EPO in combination with VEGF for wound healing. One would have been motivated to do so given Fatouros' clear teaching of wound healing properties of EPO and Krussel's teaching that VEGF induces angiogenesis, an important part of wound healing from Applicant's definition of wound healing. Although Fatouros does not teach a method of using a composition comprising the specifically claimed concentration of the compounds for wound healing and at the particular dosage of 1 to 90 IU EPO/kg, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have optimized the concentration for administration of EPO for different wounds and different formulations and routes of administration taught by all four references of Fatouros, Zaharia Czeizler, Krusse, and Amgen. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller,* 220 F.2d 454, 456, 105 USPQ 233, 235. From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references.

Applicants arguments have been carefully considered but are not deemed persuasive to overcome the rejection supra. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). For example, Applicants have stated:

"Turning first to the Fatouros reference, notwithstanding the fact that the reference does not teach pulmonary or oral administration of EPO or the use of an additional ingredient that stimulates endothelial progenitor cells, the authors do teach on p. 987, left column, second full paragraph, to administer a dose of 500 IU EPO/kg of body weight in daily doses. These (daily) doses are significantly higher than the (weekly) doses recited in applicants' claims. Nor does the reference contain any teaching which would suggest lowering the dose taught for use therein to any dosage approximating that recited in applicants' claims,"

and

"Turning next to the '158 U.S. patent to Zaharia Czeizler ("Czeizler"), as noted above this reference relates not to the treatment of wounds, as does applicants' presently claimed method. Instead, it relates to the treatment of bleeding in patients. That is, as indicated in (for example) the Abstract of the subject patent, the method claimed by the patentee consists of the subcutaneous, intravenous or oral administration of recombinant human Erythropoietin for the purpose of preventing or stopping bleeding, e.g., in patients with congenital or acquired disorders of coagulation, platelets or vessels as well as patients on therapeutic or overdose of anticoagulants or antiplatelet drugs."

The Examiner has already noted in the rejection set for on 9/17/2007 that Fatuoros does not teach the invention as a whole and that Fatuoros does not teach that "*EPO was administered via subcutaneous injection, readable upon Claims 52 and 53. Fatouros MS does not teach a weekly dosis of 1 to 90 IU of EPO/kg, pulmonary administration of EPO, oral administration of EPO, or an additional ingredient that*

stimulates endothelial progenitor cells." The same applies to '158 U.S. patent to Zaharia Czeizler ("Czeizler"), where the patent demonstrates that EPO can be administered as claimed, i.e., subcutaneous, intravenous or oral administration of recombinant human Erythropoietin, regardless of the motivation or reason to administer. The claimed invention becomes obvious when the references are considered together as a whole rather than each alone.

Again Applicants argue what is not taught in a particular reference:

Applicants turn, next, to the Amgen reference, i.e., EP 0 613 683. This reference contains no teaching relating to the healing of wounds. Furthermore, as noted above, it teaches to use (for preparing a pharmaceutical composition suitable for pulmonary administration or inhalation) significantly higher doses of EPO than are contemplated for use by applicants in their claimed method. This is evident from, e.g,.the disclosure found at p. 5, lines 9-10 (500, 1500 and 4500 IU/kg of EPO) andp. 8 lines 33-35 (500 IU/kg). As is also evident from, e.g., Fig. 4 of the reference, at least one aim of the method described therein is to significantly increase the hematocrit value - another factor upon which the presently claimed method, which envisions no such increase, may be distinguished.

The Amgen reference was used in combination with the other two supra to arrive a a method of treating wound healing via the inhalation or pulmonary administration because EO can be formulation as such. Various routes of administration are known to persons of ordinary skill in the art, and the Amgen reference enables and instruct that EPO can be administered via the instantly claimed route. Thus, by the combination of references, the rejection as set forth above, and one would have been motivated to optimize the concentration of EPO to address the therapeutic efficacies and easy of dosage to the patient. The rejection is maintained.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 46, 52, 53, 59, 65, 70, and 90 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 4, 15-31, 35-44 of copending Application No. 10/586,896. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant Application is drawn to the use of EPO for the purpose of wound healing. The 10/586,896 Application is drawn to the use of (which the Examiner is interpreting to mean a method of) EPO for the treatment of wound, specifically wound healing in addition to a combination therapy of EPO with VEGF. Oral, parenteral, and pulmonary (aerosol) administration are also claimed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicants have argued:

The present state of affairs appears to applicants to fall within the scope of the situation outlined in M.P.E.P. §804 I(B), i.e., dealing with provisional obviousness-type double patenting rejections between two (or more) co-pending applications. According to the M.P.E.P., however, when and if the provisional double patenting rejection is the only rejection remaining in one of the two co-pending applications, the Examiner should withdraw the rejection to permit the application to issue as a patent and convert "the provisional double patenting rejection in the other application(s) [i.e., Serial No. 10/586,896] into a double patenting rejection at the time the one application [i.e., the present application] issues as a patent." Applicants respectfully submit that they believe, based on the remarks provided in the portion of the response above dealing with the rejection under §103, that the subject 'obviousness' rejection has been overcome and, thus, the obviousness-type double-patenting rejection would be the only ground ofrej ection remaining in the present application. As such, the Examiner is respectfully requested to withdraw the rejection in the present case, so that it can proceed to issuance, and to thus deal with the issue in applicants' co- pending application Serial No. 10/586,896.

Given that there is more that one rejection pending, the provisional obviousness-type double patenting rejection cannot be held in abeyance. The rejection is maintained for the reasons of record.

Conclusion

No claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant should specifically point out the support for any amendments made to the disclosure, including the claims (MPEP 714.02 and 2163.06). Due to the procedure outlined in MPEP § 2163.06 for interpreting claims, it is noted that other art may be applicable under 35 U.S.C. § 102 or 35 U.S.C. § 103(a) once the aforementioned issue(s) is/are addressed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Thomas S. Heard** whose telephone number is **(571) 272-2064**. The examiner can normally be reached on 9:00 a.m. to 6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on (571) 272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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